

What is claimed is:

1. A method of using a subterranean treatment fluid in a subterranean formation comprising the steps of:
 - providing a subterranean treatment fluid comprising substantially hydrated cement particulates; and
 - placing the subterranean treatment fluid into a subterranean formation.
2. The method of claim 1 wherein the subterranean treatment fluid is used as a drilling fluid, a completion fluid, or a workover fluid.
3. The method of claim 1 wherein the substantially hydrated cement particulates comprise an admixture.
4. The method of claim 1 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
5. The method of claim 4 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, a slag cement, or a mixture thereof.
6. The method of claim 4 wherein the settable composition further comprises an admixture so that the substantially hydrated cement particulate comprises an admixture.
7. The method of claim 6 wherein the admixture is present in the settable composition in an admixture-to-hydraulic cementitious material weight ratio in the range of from about 5:95 to about 95:5.
8. The method of claim 6 further comprising the step of coating the substantially hydrated cement particulates with another admixture.
9. The method of claim 4 further comprising the step of coating the substantially hydrated cement particulates with another admixture.
10. The method of claim 1 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.

11. The method of claim 1 wherein the hydrated cement particulates are used as a lost circulation material or a density-varying additive.
12. The method of claim 1 wherein the hydrated cement particulates consist essentially of hydrated cement, and the hydrated cement particulates are used as a proppant.
13. The method of claim 1 wherein the subterranean treatment fluid is used as a cement composition.

14. A method of cementing in a subterranean formation comprising the steps of:
providing a cement composition comprising:
 - water,
 - a hydraulic cement, and
 - substantially hydrated cement particulates;
 - placing the cement composition into a subterranean formation; and
 - allowing the cement composition to set therein.
15. The method of claim 14 wherein the water is present in the cement composition in an amount sufficient to form a pumpable slurry.
16. The method of claim 14 wherein the cement composition has a density in the range of from about 4 pounds per gallon to about 20 pounds per gallon.
17. The method of claim 14 wherein the hydraulic cement comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, or a mixture thereof.
18. The method of claim 14 wherein the substantially hydrated cement particulates comprise an admixture.
19. The method of claim 18 wherein the admixture comprises an accelerator, a retarder, a fluid loss control additive, a filtration-control additive, a dispersant, a surfactant, a salt, a defoamer, an expanding additive, a formation conditioning agent, a flow enhancing additive, a strength enhancing additive, a water reducer, or a pumping aid.
20. The method of claim 14 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
21. The method of claim 20 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, a slag cement, or a mixture thereof.
22. The method of claim 20 wherein the settable composition further comprises an admixture so that the substantially hydrated cement particulate comprises an admixture.

23. The method of claim 22 wherein the admixture is present in the settable composition in an admixture-to-hydraulic cementitious material weight ratio in the range of from about 5:95 to about 95:5.

24. The method of claim 22 further comprising the step of coating the substantially hydrated cement particulates with another admixture.

25. The method of claim 20 further comprising the step of coating the substantially hydrated cement particulates with at least one admixture.

26. The method of claim 14 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.

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27. A method of reducing fluid loss from a cement composition comprising the step of: adding substantially hydrated cement particulates to the cement composition.
28. The method of claim 27 further comprising the steps of placing the cement composition into a subterranean formation and allowing it to set therein.
29. The method of claim 27 wherein the substantially hydrated cement particulates comprise an admixture.
30. The method of claim 29 wherein the admixture comprises an accelerator, a retarder, a fluid loss control additive, a filtration-control additive, a dispersant, a surfactant, a salt, a defoamer, an expanding additive, a formation conditioning agent, a flow enhancing additive, a strength enhancing additive, a water reducer, or a pumping aid.
31. The method of claim 27 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
32. The method of claim 31 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, or a mixture thereof.
33. The method of claim 31 wherein the settable composition further comprises an admixture so that the substantially hydrated cement particulate comprises an admixture.
34. The method of claim 33 wherein the admixture is present in the settable composition in an admixture-to-hydraulic cementitious material weight ratio in the range of from about 5:95 to about 95:5.
35. The method of claim 33 further comprising the step of coating the substantially hydrated cement particulates with another admixture.
36. The method of claim 31 further comprising the step of coating the substantially hydrated cement particulates with at least one admixture.
37. The method of claim 27 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.

38. A method of affecting the density of a cement composition comprising the step of: adding substantially hydrated cement particulates to the cement composition.
39. The method of claim 38 further comprising the steps of placing the cement composition into a subterranean formation and allowing it to set therein.
40. The method of claim 38 wherein the substantially hydrated cement particulates increase the density of the cement composition.
41. The method of claim 38 wherein the substantially hydrated cement particulates decrease the density of the cement composition.
42. The method of claim 38 wherein the substantially hydrated cement particulates comprise an admixture.
43. The method of claim 42 wherein the admixture comprises an accelerator, a retarder, a fluid loss control additive, a filtration-control additive, a dispersant, a surfactant, a salt, a defoamer, an expanding additive, a formation conditioning agent, a flow enhancing additive, a strength enhancing additive, a water reducer, or a pumping aid.
44. The method of claim 38 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
45. The method of claim 44 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, or a mixture thereof.
46. The method of claim 44 wherein the settable composition further comprises an admixture so that the substantially hydrated cement particulate comprises an admixture.
47. The method of claim 46 wherein the admixture is present in the settable composition in an admixture-to-hydraulic cementitious material weight ratio in the range of from about 5:95 to about 95:5.
48. The method of claim 46 further comprising the step of coating the substantially hydrated cement particulates with another admixture.

49. The method of claim 44 further comprising the step of coating the substantially hydrated cement particulates with at least one admixture.

50. The method of claim 38 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.

51. A subterranean treatment fluid comprising substantially hydrated cement particulates.
52. The subterranean treatment fluid of claim 51 wherein the subterranean treatment fluid is used as a drilling fluid, a completion fluid, or a workover fluid.
53. The subterranean treatment fluid of claim 51 wherein the substantially hydrated cement particulates comprise an admixture.
54. The subterranean treatment fluid of claim 51 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
55. The subterranean treatment fluid of claim 54 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, a slag cement, or a mixture thereof.
56. The subterranean treatment fluid of claim 54 wherein the settable composition further comprises an admixture so that the substantially hydrated cement particulate comprises an admixture.
57. The subterranean treatment fluid of claim 56 wherein another admixture is coated on the substantially hydrated cement particulates.
58. The subterranean treatment fluid of claim 54 wherein at least one admixture is coated on the substantially hydrated cement particulates.
59. The subterranean treatment fluid of claim 51 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.
60. The subterranean treatment fluid of claim 51 wherein the hydrated cement particulates are used as a lost circulation material or a density-varying additive.
61. The subterranean treatment fluid of claim 51 wherein the subterranean treatment fluid is used as a cement composition.

62. A lost circulation composition comprising substantially hydrated cement particulates.
63. The lost circulation composition of claim 62 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
64. The lost circulation composition of claim 63 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, a slag cement, or a mixture thereof.
65. The lost circulation composition of claim 62 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.

66. A density-varying additive comprising substantially hydrated cement particulates.
67. The density-varying additive of claim 66 wherein the substantially hydrated cement particulates are formed by providing a settable composition comprising a hydraulic cementitious material, and water; allowing the settable composition to set into a substantially hydrated mass; and comminuting the substantially hydrated mass into smaller particles so as to form the substantially hydrated cement particulates.
68. The density-varying additive of claim 67 wherein the settable composition has a density in the range of from about 4 pounds per gallon to about 20 pounds per gallon.
69. The density-varying additive of claim 67 wherein the hydraulic cementitious material comprises a Portland cement, a pozzolanic cement, a gypsum cement, a soil cement, a calcium phosphate cement, a high-alumina content cement, a silica cement, a high-alkalinity cement, a slag cement, or a mixture thereof.
70. The density-varying additive of claim 66 wherein the substantially hydrated cement particulates have an average particle diameter in the range of from about 5 micrometers to about 250 micrometers.